Listing of Claims

1-20. (Canceled)

21. (Currently Amended) A semiconductor photodetection detector, comprising:

a semiconductor substrate of a first conductivity type;

a photodetection layer formed on said semiconductor substrate;

a region of a second conductivity type opposite to said first conductivity type being formed in a part of said photodetection layer; and

an electrode applying an electric field to said photodetection layer via said region of said second conductivity type such that said electric field acts in a thickness direction of said photodetection layer,

said photodetection layer comprising: a first semiconductor layer having a first thickness and accumulating therein a compressive strain and absorbing an optical radiation; and a second semiconductor layer having a second thickness smaller than said first thickness and accumulating therein a tensile strain, said first semiconductor layer and said second semiconductor layer being stacked alternately and repeatedly in said photodetection layer,

wherein a total of said first thicknesses is smaller than a thickness value Lw below which a flat surface appears at a top surface of said photodetection layer and above which an irregular surface appears at said top surface of said photodetection layer, said thickness value Lw being represented by a relationship

$Lw = A \times \varepsilon W + L$,

where A represents a negative constant, ε W represents said compressive strain, and L represents a constant.

22. (Previously Presented) A semiconductor photodetection device as claimed in claim 21, wherein said first semiconductor layer accumulates therein a strain of 0.2% or more but not exceeding 0.6%.

23. (Previously Presented) A semiconductor photodetection device as claimed in claim 21, wherein said first semiconductor layer has a thickness of 50 nm or more.

24. (Previously Presented) A semiconductor device as claimed in claim 21, wherein the second thickness of said second semiconductor layer is smaller than a sum of the first and second thicknesses by a factor of $(0.9 \times L^{1/4} \times \varepsilon)$ in terms of microns, wherein ε represents that strain accumulated in said first semiconductor layer and L represents a sum of a total thickness of said first semiconductor layers in said photodetection layer and a total thickness of said second semiconductor layers in said photodetection layer.

25. (Previously Presented) A semiconductor photodetection device as claimed in claims 23, wherein the second thickness of the second semiconductor layer is smaller than one-half the first thickness of the first semiconductor.

26. (Previously Presented) A semiconductor device as claimed in claim 25, wherein the second thickness of said second semiconductor layer is smaller than a sum of the first and second thicknesses by a factor of $(0.9 \times L^{1/4} \times \varepsilon)$ in terms of microns, wherein ε represents the strain accumulated in said first semiconductor layer and L represents a sum of a total thickness of said

first semiconductor layers in said photodetection layer and a total thickness of said second semiconductor layers in said photodetection layer.

27. (Previously Presented) A semiconductor photodetection device as claimed in claim 21, wherein each of said first and second semiconductor layers comprises a ternary compound semiconductor material.

28. (Previously Presented) A semiconductor device as claimed in claim 25, wherein the second thickness of said second semiconductor layer is smaller than a sum of the first and second thicknesses by a factor of $(0.9 \times L^{1/4} \times \varepsilon)$ in terms of microns, wherein ε represents the strain accumulated in said first semiconductor layer and L represents a sum of a total thickness of said first semiconductor layers in said photodetection layer and a total thickness of said second semiconductor layers in said photodetection layer.

29. (Previously Presented) A semiconductor photodetection device as claimed in claim 21, wherein said substrate comprises n-type InP and said first and second semiconductor layers comprise n-type InGaAs.

30. (Previously Presented) A semiconductor device as claimed in claim 29, wherein the second thickness of said second semiconductor layer is smaller than a sum of the first and second thicknesses by a factor of $(0.9 \times L^{1/4} \times \varepsilon)$ in terms of microns, wherein ε represents the strain accumulated in said first semiconductor layer and L represents a sum of a total thickness of said

first semiconductor layers in said photodetection layer and a total thickness of said second semiconductor layers in said photodetection layer.

31. (Previously Presented) A semiconductor photodetection device as claimed in claim 21, further comprising an intermediate layer between said first and second semiconductor layers, said intermediate layer having an intermediate bandgap between a bandgap of said first semiconductor layer and a bandgap of said second semiconductor layer.

32. (Previously Presented) A semiconductor device as claimed in claim 31, wherein the second thickness of said second semiconductor layer is smaller than a sum of the first and second thicknesses by a factor of $(0.9 \times L^{1/4} \times \varepsilon)$ in terms of microns, wherein ε represents the strain accumulated in said first semiconductor layer and L represents a sum of a total thickness of said first semiconductor layers in said photodetection layer and a total thickness of said second semiconductor layers in said photodetection layer.

33. (Previously Presented) A semiconductor photodetection device as claimed in claim 31, wherein said intermediate layer is provided at a side of said first semiconductor layer closer to said region of said second conductivity type.

34. (Previously Presented) A semiconductor photodetection device as claimed in claim 31, wherein said intermediate layer has a composition profile that changes gradually in a thickness direction thereof.

35. (Previously Presented) A semiconductor photodetection device as claimed in claim 34, wherein said intermediate layer accumulates a tensile strain at a side thereof contacting said second semiconductor layer and a compressive strain at a side thereof contacting said first semiconductor layer.

36. (Previously Presented) The semiconductor photodetection device as claimed in claim 21, wherein a total thickness of said first and second semiconductor layers is 1.3μm.

37. (Previously Presented) The semiconductor device as claimed in claim 36, wherein said constant A takes the value of -1μm/%.

38. (New) The semiconductor photodetection device as claimed in claim 21, wherein said total thickness of said first and second semiconductor layers is equal to or smaller than 1.334 μm.

39. (New) The semiconductor photodetection device as claimed in claim 21, wherein said total of said first thicknesses is equal to or smaller than 1.334 μm but no smaller than 0.6 μm and said compressive stress is larger than 0% but not exceeding 0.72%, wherein a combination of 0.2 μm for said total of said first thicknesses and 0.25% for said compressive stress is excluded.